



ROYAL STREET NEIGHBORHOOD BIKEWAY



OVERVIEW

Improving safety and access in Old Town for bicyclists and reducing conflicts with pedestrians and vehicles has been a priority for the City in recent years.

The **Union Street Corridor Study (2013)** recommended that Royal Street should be considered as an alternate route for bicyclists on Union Street -- a roadway where potential conflicts with pedestrians and vehicles is more prevalent.

The **City's Pedestrian & Bicycle Master Plan Update (2016)** identified a "neighborhood bikeway" facility for Royal Street, between Jones Point Drive and Bashford Lane, as a priority project for implementation.



PROJECT GOALS

- Create a **MORE DIRECT AND COMFORTABLE ROUTE** for bicyclists traveling to, from and through Old Town and the Mount Vernon Trail
- **REDUCE CONFLICTS** between pedestrians, drivers, and bicyclists in Union Street
- Create a **CALMER AND SAFER STREET** for all roadway users and residents
- Provide an attractive and **GREENER STREETScape**

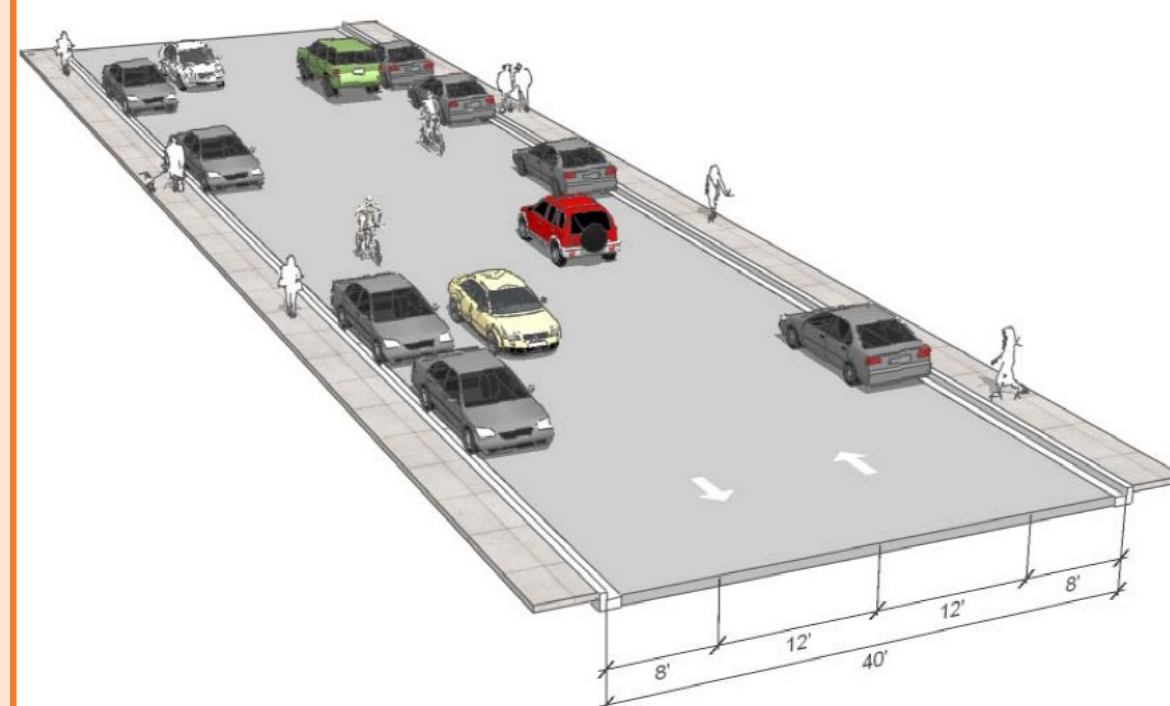
OLD TOWN NORTH

- Neighborhood Bikeway runs on Royal Street through Old Town North, between Bashford Lane and Oronoco Street.
- This is the first stage of the Royal Street Neighborhood Bikeway. Public outreach and design of the southern section (from Oronoco to Jones Point Park) to begin in Fall 2016.
- Neighborhood Bikeway is being coordinated with Old Town North Small Area streetscape enhancements and shares the same common design elements and features.

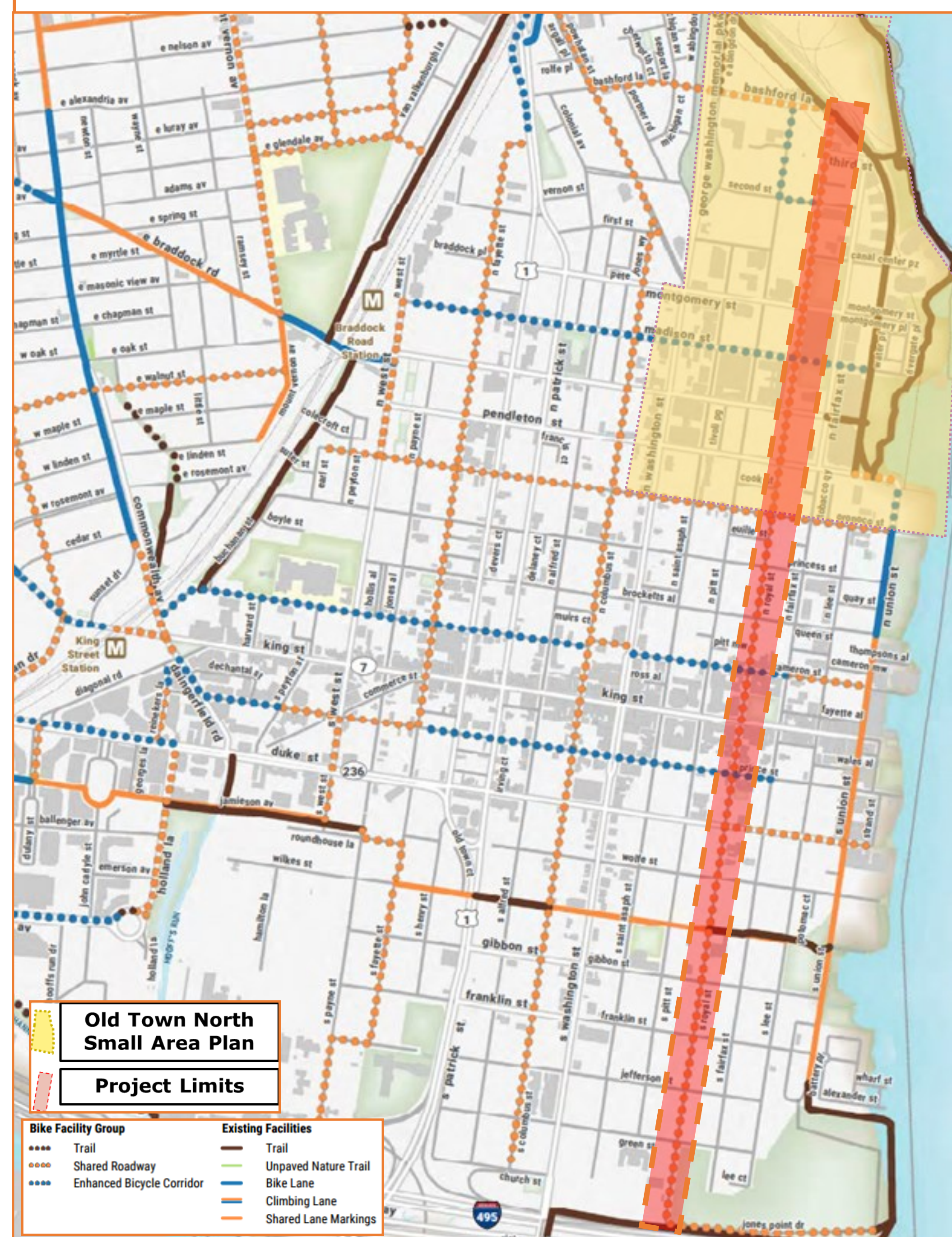
EXISTING CONDITIONS ON ROYAL ST. IN OLD TOWN NORTH

- No bike facilities
- Wide travel lanes
- No striping for centerline or parking bays
- Limited greenscape on several blocks
- Wide intersections
- Curbside parking*

* Project will minimize removal of parking spaces to extent possible



PROJECT LIMITS



Royal Street connects destinations within Old Town:

- Montgomery Street, Montgomery Park, Market Square, King Street, Safeway

Royal Street connects to existing and proposed bicycle facilities and infrastructure:

- Mount Vernon Trail, Jones Point Park, Cameron and Prince Streets, Wilkes Street Neighborhood Bikeway, Oronoco and Pendleton Streets, Madison Street, and Capital Bikeshare

Royal Street, between King Street and Bashford Lane, is **tentatively scheduled for resurfacing** in FY2018 (July 2017- June 2018)

- Any improvements would be made in conjunction with resurfacing and Old Town North Small Area Plan streetscape enhancements.

NEIGHBORHOOD BIKEWAYS

Primarily located in residential areas, Neighborhood Bikeways are streets designed to **ENCOURAGE SLOW VEHICULAR TRAFFIC** and to be comfortable for people bicycling and walking. As an important part of the citywide bicycle network, Neighborhood Bikeways may also feature design elements such as traffic calming, shared lane markings or bike route signage, and, in most cases, do not include dedicated bike lanes.

LOW TRAFFIC NEIGHBORHOOD STREETS that have been optimized for walking and bicycling.

EXTREMELY SAFE streets with low or zero crashes, and calmer traffic

Streets that are **WELCOMING** to kids and families and attractive for all levels of cyclists.



CHARACTERISTICS

1	ROUTE PLANNING: Direct access to destinations
2	SIGNS AND PAVEMENT MARKINGS: Easy to find and to follow
3	SPEED MANAGEMENT: Slow motor vehicle speeds through traffic calming
4	VOLUME MANAGEMENT: Low or reduced motor vehicle volumes
5	MINOR STREET CROSSINGS: Minimal bicyclist delay, where safe and possible
6	MAJOR STREET CROSSINGS: Safe and convenient crossings for bicyclists and pedestrians
7	OFFSET CROSSINGS: Clear and safe navigation
8	GREEN INFRASTRUCTURE: Enhancing environments

LEARN MORE ON THE ROYAL STREET NEIGHBORHOOD BIKEWAY PROJECT: <https://www.alexandriava.gov/92269>





ROYAL STREET NEIGHBORHOOD BIKEWAY TOOLKIT



SIGNS & MARKINGS

Signage and pavement markings indicate that a roadway is intended as a **shared, slow street**, and **reinforce the intention of priority for bicyclists** along a given route. Wayfinding signs and pavement markings provide a strong visual identity for the street and designate the corridor as a bicycle route.

Signage Options: Wayfinding, branding, regulatory, advisory

Marking Options: Shared lane markings, priority shared lane markings



SPEED MANAGEMENT

Speed management measures for neighborhood bikeways are intended to **slow motor vehicles**. Reducing speeds along the roadway improves the bicycling and walking environment by reducing overtaking events, enhancing drivers' ability to see and react, and diminishing the severity of crashes if they occur.

Options: Speed cushions, raised crosswalks, intersection treatments, parking lane striping, centerline markings, streetscape improvements

VOLUME MANAGEMENT

High vehicle volumes are less comfortable for bicyclists and lead to greater potential for conflicts. **Managing volumes to create a less stressful and safer roadway** is essential for a roadway with shared travel lanes, such as a neighborhood bikeway.

Options: Regulatory signage, intersection treatments, streetscape improvements

GREEN INFRASTRUCTURE

Neighborhood Bikeways present an opportunity to **incorporate green street elements** with speed and volume management treatments to slow roadway runoff, improve water quality, reduce pervious surface and create an attractive streetscape for walking and biking.

Options: Street trees, permeable pavement, permeable concrete, infiltration basins, plantings, intersection treatments, vegetated sidewalk buffer



INTERSECTION TREATMENTS

Improving safety and access at major and minor intersections is an important element of neighborhood bikeways. Improvements at intersections are beneficial to pedestrians, and not just bicyclists.

Options: High visibility crosswalks, pedestrian countdown signals, stop bars, traffic control devices, leading pedestrian intervals, regulatory signage, curb extensions (1), raised intersections (2), and neighborhood traffic circles (3)



POTENTIAL INTERSECTION OPTIONS

1. CURB EXTENSIONS  	DESCRIPTION	Extensions of the sidewalk and curb at intersection corners. Widely used in Alexandria.
	CONSIDERATIONS	Turning movements of vehicles, emergency access, underlying utilities, drainage, and parking need to be taken into consideration.
	PROS	Shortens pedestrian crossings, accommodates ADA-accessible curb ramps, reduces vehicle speeds on turns, enhances visibility between pedestrians and other roadway users, and provides opportunity for green street elements and amenities.
	CONS	Potential parking impacts and additional maintenance due to potential impacts to drainage.
2. RAISED INTERSECTIONS  	DESCRIPTION	Raised level of the roadway to the same level as the sidewalk at an intersection.
	CONSIDERATIONS	Turning movements of vehicles, emergency access, underlying utilities, drainage, design materials, and parking need to be taken into consideration.
	PROS	Accommodates people with mobility and visual disabilities because there are no vertical transitions to navigate, reduces vehicle speeds on turns and through intersection, and can create a "gateway" to a community.
	CONS	Potential parking impacts and additional maintenance due to potential impacts to drainage.
3. NEIGHBORHOOD TRAFFIC CIRCLES  	DESCRIPTION	Raised island in the center of the intersection, where bicyclists and motor vehicles would yield the right-of-way. A commonly used intersection treatment for neighborhood bikeways in communities such as Arlington, Seattle, and Minneapolis.
	CONSIDERATIONS	Turning movements of vehicles, emergency access, underlying utilities, drainage, pedestrian crossings, maintenance of landscaping, parking, and transit operations.
	PROS	Reduces vehicle speeds and reduces crashes, add unique streetscape element, provides additional pervious surface, can encourage community ownership, less expensive than a traffic signal and allows bicyclists to continue moving through intersection slowly without stopping and by yielding.
	CONS	Needs on-going maintenance, may not be feasible at all intersection due to adequate width needed, requires education to all roadway users, and may need to pull back the crosswalk, with potential impacts to parking

